

Warning: Using a mobile phone while pregnant can seriously damage your baby

Study of 13,000 children exposes link between use of handsets and later behavioural problems

By Geoffrey Lean, Environment Editor
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Women who use mobile phones when pregnant are more likely to give birth to children with behavioural problems, according to authoritative research.

A giant study, which surveyed more than 13,000 children, found that using the handsets just two or three times a day was enough to raise the risk of their babies developing hyperactivity and difficulties with conduct, emotions and relationships by the time they reached school age. And it adds that the likelihood is even greater if the children themselves used the phones before the age of seven.

The results of the study, the first of its kind, have taken the top scientists who conducted it by surprise. But they follow warnings against both pregnant women and children using mobiles by the official Russian radiation watchdog body, which believes that the peril they pose "is not much lower than the risk to children's health from tobacco or alcohol".

The research – at the universities of California, Los Angeles (UCLA) and Aarhus, Denmark – is to be published in the July issue of the journal *Epidemiology* and will carry particular weight because one of its authors has been sceptical that mobile phones pose a risk to health.

UCLA's Professor Leeka Kheifets – who serves on a key committee of the International Commission on Non-Ionizing Radiation Protection, the body that sets the guidelines for exposure to mobile phones – wrote three and a half years ago that the results of studies on people who used them "to date give no consistent evidence of a causal relationship between exposure to radiofrequency fields and any adverse health effect".

The scientists questioned the mothers of 13,159 children born in Denmark in the late 1990s about their use of the phones in pregnancy, and their children's use of them and behaviour up to the age of seven. As they gave birth before mobiles became universal, about half of the mothers had used them infrequently or not at all, enabling comparisons to be made.

They found that mothers who did use the handsets were 54 per cent more likely to have children with behavioural problems and that the likelihood increased with the amount of potential exposure to the radiation. And when the children also later used the phones they were, overall, 80 per cent more likely to suffer from difficulties with behaviour. They were 25 per cent more at risk from emotional problems, 34 per cent more likely to suffer from difficulties relating to their peers, 35 per cent more likely to be hyperactive, and 49 per cent more prone to problems with conduct.

The scientists say that the results were "unexpected", and that they knew of no biological mechanisms that could cause them. But when they tried to explain them by accounting for other possible causes – such as smoking during pregnancy, family psychiatric history or socio-economic status – they found that, far from disappearing, the association with mobile phone use got even stronger.

They add that there might be other possible explanations that they did not examine – such as that mothers who used the phones frequently might pay less attention to their children – and stress that the

results "should be interpreted with caution" and checked by further studies. But they conclude that "if they are real they would have major public health implications".

Professor Sam Milham, of the blue-chip Mount Sinai School of Medicine in New York, and the University of Washington School of Public Health – one of the pioneers of research in the field – said last week that he had no doubt that the results were real. He pointed out that recent Canadian research on pregnant rats exposed to similar radiation had found structural changes in their offspring's brains.

The Russian National Committee on Non-Ionizing Radiation Protection says that use of the phones by both pregnant women and children should be "limited". It concludes that children who talk on the handsets are likely to suffer from "disruption of memory, decline of attention, diminishing learning and cognitive abilities, increased irritability" in the short term, and that longer-term hazards include "depressive syndrome" and "degeneration of the nervous structures of the brain".